

Middle and South Atlantic coasts. During the 29th and 30th the storm disappeared into Canada. In New England and the Lake region it continued very severe on the former of these dates, the easterly winds rising to 38 miles at Portland, and 34 at Boston, and the westerly gales along the Lakes varying from 30 to 34 miles per hour. In advance of this storm, Cautionary Signals were hoisted on the 27th along the Texas coast, from North Carolina to New York, at Grand Haven and Milwaukee, and the 23th, along the New England coast, and Canadian stations notified from Lake Huron to Montreal. The display was justified at all of them.

No. VIII.—At Portland, Or., this storm was preceded by brisk southerly winds and rainy weather on the 28th, and accompanied by a heavy hail-storm on the 29th. Snow-storms prevailed during the 30th from Utah and Colorado northward, and rapidly falling barometer, with warm, southerly winds, in the Southwest. By 11 p. m., of the 31st, the central area of lowest pressure had advanced southeastward into Texas. On its eastern side the rain-area reached the Lower Mississippi valley, and on its northwestern side severe snow-storms continued, with northerly winds, from New Mexico to Wyoming. Heavy thunder-storms were reported from the Southwest. At Dodge City, Kan., the anemometer registered from 49 to 55 miles per hour during the forenoon.

## TEMPERATURE OF THE AIR.

The isothermal curves, in red, upon chart No. II, illustrate the general distribution of the temperature of the air for the month. A reference to the table, in lower left-hand corner upon the same chart, shows that it has averaged above that for many years at the Pacific coast stations, and 2.5 above at Salt Lake City. In the remaining sections, the average has been below the normal from 1° to 7.5, the difference being greatest for the Northwestern States. At Virginia City, Cheyenne, Denver and Santa Fé, it has averaged from 0.6 to 3.7 below. Minimum and maximum temperatures, respectively, for the month, are given for the following stations, viz: Pembina, —27°, 35°; Brocktonridge, —30°, 44°; Duluth, —10°, 43°; Bemidji, —22°, 42°; Cheyenne, —3°, 60°; Virginia City, —19°, 52°; Salt Lake City, 18°, 65°; Pikes' Peak, —20°, 25°; Santa Fé, 5°, 60°; Leavenworth, 2°, 68°; Marquette, —6°, 53°; Alpena, —6°, 62°; Erie, 4°, 69°; Cincinnati, 16°, 73°; Oswego, 6°, 59°; Malone, N. Y., —4°, 65°; Mt. Washington, —25°, 47°; Eastport, 0°, 45°; New York, 12°, 70°; Washington, 14°, 76°; Ft. Gibson, 7°, 83°; Indianola, 37°, 80°; New Orleans, 20°, 79°; Savannah, 30°, 80°; and Key West, 59°, 86°.

*Ranges of Temperature.*—In addition to the above, some of the greatest ranges are for St. Louis, Manhattan, Ks., and Omaha, 68°; Pittsburgh, 72°; North Platte, 74°, and Dodge City, 80°. Some of the least ranges are for Portland, Or., 26°; San Francisco, 29°; San Diego and Thatcher's Island, Mass., 34°; Cape May, 36°; Newport, 39°; Galveston, 40°; Tybee Island, Ga., 44°; and Mobile, 45°.

*Frosts and ice*, destructive to fruits and early vegetables, besides those mentioned in connection with the movement of high-pressure areas,—12th, peaches killed at Wytheville, Va.; 13th and 28th, Humboldt, Tenn., fruit and early vegetables killed; 13th to 18th, Benetisville, Ky., peaches killed; 16th to 19th, Baxter Springs, Kan., peaches killed; 18th, Dodge City, Ks., all fruit killed; 18th to 23d, McMinnville, Tenn., peaches killed; 19th, Caperville, Va., all fruits killed; 20th, Melissa, Houston and Austin, Tex., vegetation and fruits killed; 20th, 21st and 22d, Humboldt, Tenn., and Monticello, Ark., fruits and vegetables injured; 21st and 29th, Gilmer, Tex., fruit injured; 24th, Norfolk, Va., pears damaged; 25th, Ringgold, O., fruit, &c., killed; 26th, Keokuk, Ia., peaches injured; 31st, Alta Vista, Va., and Louisville, Ill., peaches killed; during the month, much damage at Clarksville, Tex.; peaches killed, and pears partly, Attaway, N. C.; and fruit killed at Asheville, N. C.

## PRECIPITATION.

Upon chart No. III is represented the distribution of rain-fall and melted snow for the present month. The amount of snow caught in the gauges was frequently less than the actual fall in the northern sections, owing to loss during the prevalence of high winds and gales. Except the slight deficiency in the South Atlantic States and the average fall in Minnesota, the precipitation has largely exceeded the normal.

*Snow-fall.*—Reports of snow-fall vary from 18 to 35.5 inches in Me.; 17 to 39 in Vt. and N. H.; 3.5 to 14 in Mass., Conn., N. J., Va., Ala., Ark. and Tenn.; 9 to 31.5 in Ky., Ohio, Ind., Ill. and Iowa; 12.5 to 44 in Mich. and Wis.; 10 to 21 in Minn. and Dakota; 7.5 to 38 in Kan., Neb., Col. and Utah.

*Rainy Days.*—The number of days, during which rain or snow fell, averages as follows: Middle Atlantic States and New England, 14; South Atlantic and Gulf States, 10; Ohio valley and Tennessee, 15; Lower Lake region, 21; Upper Lake region, 15; upper Mississippi and lower Missouri valleys, 13; Rocky Mountain stations, 14. At Portland, Or., 26 rainy days were recorded, San Francisco, 10 and San Diego, 4.

*Cloudy Days.*—The number, for New England, varies from 6 to 17; Middle States, 5 to 17; South Atlantic States, 3 to 10; Gulf States, 3 to 16; Tennessee and Ohio valley, 4 to 17; Lake region, 6 to 21; west of the upper Mississippi valley, 7 to 16; Territories, 9 to 17.